

**REMARKS**

The Examiner was correct that the IDS Form 1449 was submitted with the IDS. As requested, another copy of that Form together with the Form 892 sent with the Office Action March 6, 2003 are enclosed.

Most of the rejections in the current Office Action were based primarily, or at least in part, on the Niimi et al. published patent application. It is believed that the arguments presented heretofore were valid and to the extent appropriate, they are incorporated herein by reference. However, it is not necessary to consider the published application in any detail since it is not prior art to the instant application. Pursuant to MPEP 706.02(l)(2)(II), the Office is advised that the Niimi application and the present application were at the time the invention of the present application was made owned by the same entity, Murata Manufacturing Co., Ltd.

Because Niimi is not prior art to the present application, the rejections set forth in paragraph 4 of the current Office Action as well as the rejection based on 35 U.S.C. 103 set forth in paragraph 5 of the Action are moot.

The sole remaining rejection is of claims 1, 2, 4, 5, 7-10 and 12-15 under 35 U.S.C. 102 over Kumada. That rejection is respectfully traversed.

As pointed out in the opening paragraphs of the application, the present invention is particularly related to an electric component for a positive temperature coefficient thermistor (PCT thermistor) which contains a semiconductive ceramic mainly containing barium titanate. PCT electronic components such as thermistors are characterized by a number of problems. Those include heat resolution of flux, deoxidation of the ceramic and deterioration in withstand voltage. The present invention is particularly designed to solve the problem of deterioration in withstand

voltage and to accomplish that objective, a ceramic has a relative density of about 90% or less is used and is impregnated with a glass. Impregnation is not the same as a surface coating, as made apparent by the difference in, for instance, claims 1 and 2 of the present application.

The Kumada reference relates to plates of ceramic semiconductor materials which have been stacked so as to be interconnected by insulating layers and conducting layers. The insulating layers may be formed through the use of a glass frit paste. The stacked plate members are heated by a hotplate to be connected with each other under pressure to form a laminate and thereafter the laminate is baked in a kiln. The Kumada reference fails to anticipate the rejected claims because it fails to teach, inter alia, the ceramic has a relative density of about 90% or less and the ceramic is impregnated with the glass.

The Office Action seeks to overcome these deficiencies by advancing several assertions, none of which are valid. The first is that the component of Kumada is "impregnated" since the component has glass inside of it, whether or not there is diffusion. However, the claims under consideration recite that the ceramic is impregnated with the glass, not that the component has glass located in its interior. A separate layer of glass, whether disposed on a surface or in the interior is not impregnated in a ceramic. Any assertion to the contrary misinterprets the plain meaning of the claimed language.

As an alternative, the Office Action asserts that the glass layers are impregnated when they are fired under pressure and temperature as disclosed at column 6, lines 48-60. The only disclosure of heating under pressure is a sentence at line 65-67 which states "then the stacked plate members were heated by a hot plate to be connected with each other under pressure, thereby to obtain a laminate." Neither

the temperature nor the pressure employed are stated. The Office Action appears to assume that impregnation would take place at any pressure above ambient and any temperature above ambient but no factual basis for this assertion is set forth and it is clearly speculation. Any reliance on inherency requires the inherency be certain, *In re Robertson*, 49 USPQ2d 1949 (Fed. Cir. 1999)(inherency is not established by probabilities or possibilities); *Ex parte Cyba*, 155 USPQ 756 (Bd. App. 1966). The burden is on the Office to show the inherency is certain and it is clearly not certain here. For instance, if a layer of glass having a softening point of 100°C is placed on a ceramic and subjected to a pressure of 2 atmospheres and a temperature of 35°C, one skilled in the art would certainly not expect any impregnation to occur.

The Office Action asserts on page 4 that there is inherency because “the glass is impregnated since there is pressure and temperature, according to applicant’s specification, and bonding will not occur where there is no diffusion. Adhesion requires an amount of diffusion.” By reference to the applicant’s specification, it is assumed that references being made to the text on page 11 of the application. That text, however, does not support the assertion. The instant application refers to printing a glass on a component body, heating it to at least the softening temperature to lower the viscosity and applying pressure. There is no indication in the Kumada reference that the glass was heated to at least its softening temperature and pressure applied. As to the assertion that bonding would not occur unless there was diffusion and adhesion requires an amount of diffusion, both of these assertions are made without any statement of a factual basis for their validity. As such, they are merely speculation and that is insufficient to show certainty.

With respect to the density of about 90% or less, the Office Action asserts this is met “since there is no disclosure of the barium titanate being a perfect crystal”. The point of this statement is not clear since whether or not the barium titanate is a perfect

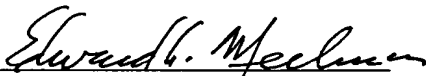
crystal does not indicate anything about whether the density is about 90% or less. Moreover, this assertion is explicitly based on the lack of disclosure and it is well established that silence is not an adequate disclosure of facts from which a conclusion of obviousness may be drawn. *In re Newell*, 13 USPQ 2d 1248, 1250 (Fed. Cir. 1989); , 148 USPQ 548 (CCPA 1966). Moreover, it is well know that a purpose of sintering barium titanate is to densify the ceramic yet there is no indication in Kumada whether the barium titanate used to prepare the n-type semiconductive ceramic was or was not sintered.

In light of the foregoing considerations, it is respectfully submitted that the anticipation rejection should be withdrawn.

It is respectfully submitted that this application is now in condition to be allowed and the early issuance of a Notice of Allowance is respectfully solicited.

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Respectfully submitted,

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